

## APPENDIX C

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**DEPARTMENT OF HEALTH AND HUMAN SERVICES**
**Office of the Secretary****1987 Cost-of-Living Increase and Other Determinations****AGENCY:** Social Security Administration, HHS.**ACTION:** Notice.**SUMMARY:** The Secretary has determined—

1. A 1.3 percent cost-of-living increase in benefits under title II (section 215(i)) of the Social Security Act (the Act);

(2) An increase in the Federal SSI (title XVI) benefit amounts for 1987 to \$4,080 for an eligible individual, \$6,120 for an eligible individual with an eligible spouse, and \$2,040 for an essential person (section 1617 of the Act);

(3) The average of the total wages for 1985 to be \$16,822.51;

(4) The Social Security contribution and benefit base to be \$43,800 for remuneration paid in 1987 and self-employment income earned in taxable years beginning in 1987;

(5) The amount of earnings a person must have to be credited with a quarter of coverage in 1987 to be \$460;

(6) The monthly exempt amounts under the Social Security retirement earnings test for taxable years ending in calendar year 1987 to be \$680 for beneficiaries age 65 through 69 and \$500 for beneficiaries under age 65;

(7) The "old-law" contribution and benefit base to be \$32,700 for 1987.

We also describe the computation of benefits for a worker and the worker's family who first become eligible for benefits in 1987, and the computation of the OASDI fund ratio used to determine whether the automatic increase in benefits under title II of the Act is affected by the "stabilizer" provision.

Finally, we are publishing a table of OASDI "special minimum" benefit amounts. This table provides the range of primary insurance amounts and the

corresponding maximum family benefits under the "special minimum" benefit provision, as revised to reflect the automatic benefit increase. These benefits are payable to certain individuals with long periods of relatively low earnings.

**FOR FURTHER INFORMATION CONTACT:** Jeffrey L. Kunkel, Office of the Actuary, Social Security Administration, 6401 Security Boulevard, Baltimore, Maryland 21235, telephone (301) 594-3877.

**SUPPLEMENTARY INFORMATION:** The Secretary is required by the Act to publish within 45 days after the close of the third calendar quarter of 1986 the benefit increase percentage and the revised table of "special minimum" benefits (section 215(i)(2)(D)). Also, the Secretary is required to publish before November 1 the average of the total wages for 1985 (section 215(i)(2)(C)(iii)) and the OASDI fund ratio for 1986 (section 215(i)(2)(C)(iii)). Finally, the Secretary is required to publish on or before November 1 the contribution and benefit base for 1987 (section 230(a)), the amount of earnings required to be credited with a quarter of coverage in 1987 (section 213(d)(2)), the monthly exempt amounts under the Social Security retirement earnings test for 1987 (section 203(f)(8)(A)), the formula for computing a primary insurance amount for workers who first become eligible for benefits or die in 1987 (section 215(a)(1)(D)), and the formula for computing the maximum amount of benefits payable to the family of a worker who first becomes eligible for old-age benefits or dies in 1987 (section 203(a)(2)(C)).

**Cost-of-Living Increases**

*General.* The cost-of-living increase is 1.3 percent for benefits under titles II and XVI of the Social Security Act.

Under title II, old-age, survivors, and disability insurance benefits will increase by 1.3 percent beginning with the December 1986 benefits, which are payable on January 2, 1987. The kinds of benefits payable to individuals entitled

under this program are old-age, disability, wife's, husband's, child's, widow's, widower's, mother's, father's, and parent's insurance benefits. This increase is based on the authority contained in section 215(i) of the Act (42 U.S.C. 415(i) as modified by Pub. L. 99-509).

Under title XVI, Federal SSI payment levels will also increase by 1.3 percent effective for payments made for the month of January 1987 but paid on December 31, 1986. This is based on the authority contained in section 1617 of the Act (42 U.S.C. 1382f). The percentage increase effective January 1987 is the same as the title II benefit increase and the annual payment amount is rounded, when not a multiple of \$12, to the next lower multiple of \$12.

*Automatic Benefit Increase Computation.* Under section 215(i) of the Act, the third calendar quarter of 1986 is a cost-of-living computation quarter for all the purposes of the Act. The Secretary is, therefore, required to increase benefits, effective with December 1986, for individuals entitled under section 227 or 228 of the Act, to increase primary insurance amounts of all other individuals entitled under title II of the Act, and to increase maximum benefits payable to a family. For December 1986, the benefit increase is the percentage increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers from the third quarter of 1985 through the third quarter of 1986. Automatic benefit increases may be modified by a "stabilizer" provision under certain adverse financial conditions that are described in the section on the OASDI fund ratio. The December 1986 benefit increase is not affected by this provision.

Section 215(i)(1) of the Act provides that the Consumer Price Index for a cost-of-living computation quarter shall be the arithmetical mean of this index for the 3 months in that quarter. The Department of Labor's Consumer Price Index for Urban Wage Earners and Clerical Workers for each month in the quarter ending September 30, 1985, was: for July 1985, 319.1; for August 1985,

319.6; and for September 1985, 320.5. The arithmetical mean for this calendar quarter is 319.7 (after rounding to the nearest 0.1). The corresponding Consumer Price Index for each month in the quarter ending September 30, 1986 was: for July 1986, 322.9; for August 1986, 323.4; and for September 1986, 324.9. The arithmetical mean for this calendar quarter is 323.7. Thus, because the Consumer Price Index for the calendar quarter ending September 30, 1986 exceeds that for the calendar quarter ending September 30, 1985 by 1.3 percent, a cost-of-living benefit increase of 1.3 percent is effective for benefits under title II of the Act beginning December 1986.

*Title II Benefit Amounts.* In accordance with section 215(i) of the Act, in the case of insured workers and family members for whom eligibility for benefits (i.e., the worker's attainment of age 62, or disability or death before age 62) occurred before 1987, benefits will increase by 1.3 percent beginning with benefits for December 1986 which will be received in January 1987. In the case of first eligibility after 1986, the 1.3 percent increase will not apply.

For eligibility after 1978, benefits are generally determined by a benefit formula provided by the Social Security Amendments of 1977 (Pub. L. 95-216), as described later in this notice.

For eligibility before 1979, benefits are determined by means of a benefit table. In accordance with section 215(i)(4) of the Act, the primary insurance amounts and the maximum family benefits shown in this table are revised by (1) increasing by 1.3 percent the corresponding amounts established by the last cost-of-living increase and the last extension of the benefit table made under section 215(i)(4) (to reflect the increase in the contribution and benefit base for 1986); and (2) by extending the table to reflect the higher monthly wage and related benefit amounts now possible under the increased contribution and benefit base for 1987, as described later in this notice. A copy of this table may be obtained by writing to: Social Security Administration, Office of Governmental

Affairs, Office of Public Inquiries, 4100 Annex, Baltimore, Maryland 21235.

Section 215(i)(2)(D) of the Act requires that, when the Secretary determines an automatic increase in Social Security benefits, the Secretary shall publish in the **Federal Register** a revision of the range of the primary insurance amounts and corresponding maximum family benefits based on the dollar amount and other provision described in section 215(a)(1)(C)(i). These benefits are referred to as "special minimum" benefits and are payable to certain individuals with long periods of relatively low earnings. In accordance with section 215(a)(1)(C)(i), the attached table shows the revised range of primary insurance amounts and corresponding maximum family benefit amounts after the 1.3 percent benefit increase.

Section 227 of the Act provides flat-rate benefits to a worker who became age 72 before 1969 and was not insured under the usual requirements, and to his or her spouse or surviving spouse. Section 228 of the Act provides similar benefits at age 72 for certain uninsured persons. The current monthly benefits amount of \$138.50 for an individual under sections 227 and 228 of the Act is increased by 1.3 percent to obtain the new amount of \$140.30. The present monthly benefit amount of \$69.40 for a spouse under section 227 is increased by 1.3 percent to \$70.30.

*Title XVI Benefit Amounts.* In accordance with section 1617 of the Act, Federal SSI benefit amounts for the aged, blind, and disabled are increased by 1.3 percent effective January 1987. Therefore, the yearly Federal SSI benefit amount of \$4,032 for an eligible individual, \$6,048 for an eligible individual with an eligible spouse and \$2,016 for an essential person, which are effective January 1986, are increased, effective with January 1987, to \$4,080, \$6,120, and \$2,040 respectively after rounding. The monthly payment amount

is determined by dividing the yearly amount by 12, and subtracting monthly countable income. In the case of an eligible individual with an eligible spouse, the amount payable is further divided equally between the two spouses.

#### *Average of the Total Wages for 1985*

The determination of the average wage figure for 1985 is based on the 1984 average wage figure of \$16,135.07 announced in the **Federal Register** on October 31, 1985 (50 FR 45558), along with the percentage increase in average wages from 1984 to 1985 measured by annual wage data tabulated by the Social Security Administration (SSA). The average amounts of wages calculated directly from this data were \$15,250.75 and \$15,900.51 for 1984 and 1985, respectively. To determine an average wage figure for 1985 at a level that is consistent with the series of average wages for 1951-1977 (published December 29, 1978, at 43 FR 61016), we multiplied the 1984 average wage figure of \$16,135.07 by the percentage increase in average wages from 1984 to 1985 (based on the SSA-tabulated wage data) as follows (with the result rounded to the nearest cent): Average wage for 1985 =  $\$16,135.07 \times \$15,900.51 \div \$15,250.75 = \$16,822.51$ . Therefore, the average wage for 1985 is determined to be \$16,822.51.

#### *Contribution and Benefit Base*

*General.* The contribution and benefit base is \$43,800 for remuneration paid in 1987 and self-employment income earned in taxable years beginning in 1987.

The contribution and benefit base serves two purposes:

- (1) It is the maximum annual amount of earnings on which Social Security taxes are paid, and
- (2) It is the maximum annual amount used in determining a person's Social Security benefits.

*Computation.* Section 230(c) of the Act provides a table with the contribution and benefit base for each year 1978, 1979, 1980, and 1981. For years after 1981, section 230(b) of the Act contains a formula for determining the contribution and benefit base. Under the prescribed formula, the contribution and benefit base for 1987 shall be equal to the 1986 base of \$42,000 multiplied by the ratio of: (1) the average amount, per employee, of total wages for the calendar year 1985 to (2) the average amount of those wages for the calendar year 1984. Section 230(b) further provides that if the amount so determined is not a multiple of \$300, it shall be rounded to the nearest multiple of \$300.

*Average Wages.* The average wage for calendar year 1984 was previously determined to be \$16,135.07. The average wage for calendar year 1985 has been determined to be \$16,822.51 as stated herein.

*Amount.* The ratio of the average wage for 1985, \$16,822.51, compared to that for 1984, \$16,135.07, is 1.0426053. Multiplying the 1986 contribution and benefit base of \$42,000 by the ratio 1.0426053 produces the amount of \$43,789.42 which must then be rounded to \$43,800. Accordingly, the contribution and benefit base is determined to be \$43,800 for 1987.

#### *Quarter of Coverage Amount*

*General.* The 1987 amount of earnings required for a quarter of coverage is \$460. A quarter of coverage is the basic unit for determining whether a worker is insured under the Social Security program. For years before 1978, an individual generally was credited with a quarter of coverage for each quarter in which wages of \$50 or more were paid, or an individual was credited with 4 quarters of coverage for every taxable year in which \$400 or more of self-employment income was earned.

Beginning in 1978, wages generally are no longer reported on a quarterly basis; instead, annual reports are made. With the change to annual reporting, section 352(b) of the Social Security Amendments of 1977 (Pub. L. 95-216) amended section 213(d) of the Act to provide that a quarter of coverage would be credited for each \$250 of an individual's total wages and self-employment income for calendar year 1978 (up to a maximum of 4 quarters of coverage for the year). Individuals generally must have self-employment income of at least \$400 in a taxable year in order to be credited with any quarters of coverage.

*Computation.* Under the prescribed formula, the quarter of coverage amount for 1987 shall be equal to the 1978 amount of \$250 multiplied by the ratio of: (1) the average amount, per employee, of total wages for calendar year 1985 to (2) the average amount of those wages reported for calendar year 1976. The section further provides that if the amount so determined is not a multiple of \$10, it shall be rounded to the nearest multiple of \$10.

*Average Wages.* The average wage for calendar year 1976 was previously determined to be \$9,226.48. This was published in the **Federal Register** on December 29, 1978, at 43 FR 61016. The average wage for calendar year 1985 has been determined to be \$16,822.51 as stated herein.

*Quarter of Coverage Amount.* The ratio of the average wage for 1985, \$16,822.51, compared to that for 1976, \$9,226.48, is 1.823286. Multiplying the 1978 quarter of coverage amount of \$250 by the ratio of 1.823286 produces the amount of \$455.82 which must then be rounded to \$460. Accordingly, the quarter of coverage amount is determined to be \$460 for 1987.

#### *Retirement Earnings Test Exempt Amounts*

(a) *Beneficiaries Aged 70 or Over.* Beginning with months after December 1982, there is no limit on the amount an

individual aged 70 or over may earn and still receive Social Security benefits.

(b) *Beneficiaries Aged 65 through 69.* The retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is stated in the Act at section 203(f)(8)(D) for years 1978 through 1982. A formula is provided in section 203(f)(8)(B) for computing the exempt amount applicable for years after 1982. The monthly exempt amount for 1986 was determined by this formula to be \$650. Under the formula, the exempt amount of 1987 shall be the 1986 exempt amount multiplied by the ratio of: (1) the average amount, per employee, of the total wages for calendar year 1985 to (2) the average amount of those wages for calendar year 1984. The section further provides that if the amount so determined is not a multiple of \$10, it should be rounded to the nearest multiple of \$10.

*Average Wages.* Average wages for this purpose are determined in the same way as for the contribution and benefit base. Therefore, the ratio of the average wages of 1985, \$16,822.51 compared to that for 1984, \$16,135.07, is 1.0426053.

*Exempt Amount for Beneficiaries Aged 65 through 69.* Multiplying the 1986 retirement earnings test monthly exempt amount of \$650 by the ratio of 1.0426053 produces the amount of \$677.69. This must then be rounded to \$680. Thus, the retirement earnings test monthly exempt amount for beneficiaries aged 65 through 69 is determined to be \$680 for 1987. The corresponding retirement earnings test annual exempt amount for these beneficiaries is \$8,160.

(c) *Beneficiaries Under Age 65.* Section 203 of the act provides that beneficiaries under age 65 have a lower retirement earnings test monthly exempt amount than those beneficiaries aged 65 through 69. The exempt amount for beneficiaries under age 65 is determined by a formula provided in section 203(f)(8)(B) of the Act. Under the formula, the monthly amount for beneficiaries under age 65 is \$480 for 1986. The formula provides that the exempt amount for 1987 shall be the 1986 exempt amount for beneficiaries

under age 65 multiplied by the ratio of: (1) the average amount, per employee, of the total wages for calendar year 1984 to (2) the average amount of those wages for calendar year 1985. The section further provides that if the amount so determined is not a multiple of \$10, it shall be rounded to the nearest multiple of \$10.

*Average Wages.* Average wages for this purpose are determined in the same way as for the contribution and benefit base. Therefore, the ratio of the average wages of 1985, \$16,822.51, compared to that of 1984, \$16,135.07, is 1.0426053.

*Exempt Amount for Beneficiaries Under Age 65.* Multiplying the 1986 retirement earnings test monthly exempt amount of \$480 by the ratio 1.0426053 produces the amount of \$500.45. This must then be rounded to \$500. The retirement earnings test monthly exempt amount for beneficiaries under age 65 is thus determined to be \$500 for 1987. The corresponding retirement earnings test annual exempt amount of these beneficiaries is \$6,000.

#### *Computing Benefits After 1978*

The Social Security Amendments of 1977 changed the formula for determining an individual's primary insurance amount after 1978. This basic new formula is based on "wage indexing" and was fully explained with interim regulations and final regulations published in the *Federal Register* on December 29, 1978 (43 FR 60877) and July 15, 1982 (47 FR 30732) respectively. It generally applies when a worker after 1978 attains age 62, becomes disabled, or dies before age 62. This formula uses the worker's earnings after they have been adjusted, or "indexed," in proportion to the increase in average wages of all workers. Using this method, we determine the worker's "average indexed monthly earnings." We then compute the primary insurance amount, using the worker's average indexed monthly earnings. The computation formula is adjusted automatically each year to reflect changes in general wage levels.

***Average Indexed Monthly Earnings.***

To assure that a worker's future benefits reflect the general rise in the standard of living that occurs during his or her working lifetime, we adjust or "index" the worker's past earnings to take into account the change in general wage levels that has occurred during the worker's years of employment. These adjusted earnings are then used to compute the worker's primary insurance amount.

For example, to compute the average indexed monthly earnings for a worker attaining age 62, becoming disabled, or dying before attaining age 62, in 1987, we divide the average of the total wages for 1985, \$16,822.51 by the average of the total wages for each year prior to 1985 in which the worker had earnings. We then multiply the actual wages and self-employment income as defined in section 211(b) of the act credited for each year by the corresponding ratio to obtain the worker's adjusted earnings for each year. After determining the number of years we must use to compute the primary insurance amount, we pick those years with highest indexed earnings, total those indexed earnings and divide by the total number of months in those years. This figure is rounded down to the next lower dollar amount, and becomes the average indexed monthly earnings figure to be used in computing the worker's primary insurance amount of 1987.

***Computing the Primary Insurance Amount.*** The primary insurance amount is the sum of three separate percentages of portions of the average indexed monthly earnings. In 1979 (the first year the formula was in effect), these portions were the first \$180, the amount between \$180 and \$1,085, and the amount over \$1,085. The amounts for 1987 are obtained by multiplying the 1979 amounts by the ratio between the average of the total wages for 1985, \$16,822.51, and for 1977, \$9,779.44. These results are then rounded to the nearest dollar. For 1987, the ratio is 1.720192. Multiplying the 1979 amounts of \$180 and \$1,085 by 1.720192 produces the

amounts of \$309.63 and \$1,866.41. These must then be rounded to \$310 and \$1,866. Accordingly, the portions of the average indexed monthly earnings to be used in 1987 are determined to be the first \$310, the amount between \$310 and \$1,866, and the amount over \$1,866.

Consequently, for individuals who first become eligible for old-age insurance benefits or disability insurance benefits in 1987, or who die in 1987 before becoming eligible for benefits, we will compute their primary insurance amount by adding the following:

- (a) 90 percent of the first \$310 of their average indexed monthly earnings, plus
- (b) 32 percent of the average indexed monthly earnings over \$310 and through \$1,866, plus
- (c) 15 percent of the average indexed monthly earnings over \$1,866.

This amount is then rounded to the next lower multiple of \$.10 if it is not already a multiple of \$.10. This formula and the adjustments we have described are contained in section 215(a) of the Act (42 U.S.C. 415(a)).

***Maximum Benefits Payable to a Family***

The 1977 Amendments continued the long-established policy of limiting the total monthly benefits which a worker's family may receive based on his or her primary insurance amount. Those amendments also continued the then existing relationship between maximum family benefits and primary insurance amounts but did change the method of computing the maximum amount of benefits which may be paid to a worker's family. The Social Security Disability Amendments of 1980 (Pub. L. 96-265) established a new formula for computing the maximum benefits payable to the family of a disabled worker. This new formula is applied to the family benefits of workers who first become entitled to disability insurance benefits after June 30, 1980, and who first become eligible for these benefits after 1978. The new formula was explained in a Final Rule published in the *Federal Register* on May 8, 1981, at 46 FR 25601. For disabled workers

initially entitled to disability benefits before July 1980, or whose disability began before 1979, the family maximum payable is computed the same as the old-age and survivor family maximum.

*Computing the Old-Age and Survivor Family Maximum.* The formula used to compute the family maximum is similar to that used to compute the primary insurance amount. It involves computing the sum of four separate percentages of portions of the worker's primary insurance amount. In 1979, these portions were the first \$230, the amount between \$230 and \$332, the amount between \$332 and \$433, and the amount over \$433. The amounts for 1987 are obtained by multiplying the 1979 amounts by the ratio between the average of the total wages for 1985, \$16,822.51, and the average for 1977, \$9,779.44. This amount is then rounded to the nearest dollar. For 1987, the ratio is 1.720192. Multiplying the amounts of \$230, \$332, and \$433 by 1.720192 produces the amounts of \$395.64, \$571.10, and \$744.84. These amounts are then rounded to \$396, \$571, and \$745. Accordingly, the portions of the primary insurance amounts to be used in 1987 are determined to be the first \$396, the amount between \$396 and \$571, the amount between \$571 and \$745, and the amount over \$745.

Consequently, for the family of a worker who becomes age 62 or dies in 1987, the total amount of benefits payable to them will be computed so that it does not exceed:

- (a) 150 percent of the first \$396 of the worker's primary insurance amounts, plus
- (b) 272 percent of the worker's primary insurance amount over \$396 through \$571, plus
- (c) 134 percent of the worker's primary insurance amount over \$571 through \$745, plus
- (d) 175 percent of the worker's primary insurance amount over \$745.

This amount is then rounded to the next lower multiple of \$.10 if it is not already a multiple of \$.10. This formula and the adjustments we have described

are contained in section 203(a) of the Act (42 U.S.C. 403(a)).

#### *"Old-Law" Contribution and Benefit Base*

*General.* The 1987 "old-law" contribution and benefit base is \$32,700. This is the base that would have been effective under the Social Security Act without the enactment of the 1977 amendments. The base is computed under section 230(b) of the Social Security Act as it read prior to the 1977 amendments.

The "old-law" contribution and benefit base is used by:

- (1) The Railroad Retirement program to determine certain tax liabilities and tier II benefits payable under that program to supplement the tier I payment which correspond to basic Social Security benefits,
- (2) The Pension Benefit Guaranty Corporation to determine the maximum amount of pension guaranteed under the Employee Retirement Income Security Act. (This use is stated in section 230(d) of the Social Security Act.), and
- (3) Social Security to determine a "year of coverage" in computing the "special minimum" benefit and in computing benefits for persons who are also eligible to receive pensions based on employment not covered under section 210 of the Social Security Act.

*Computation.* The base is computed using the automatic adjustment formula in section 230(b) of the Act as it read prior to the enactment of the 1977 amendments. Under the formula, the "old-law" contribution and benefit base shall be the "old-law" 1986 base multiplied by the ratio of: (1) the average amount, per employee, of total wages for the calendar year 1985 to (2) the average amount of those wages for the calendar year 1984. If the amount so determined is not a multiple of \$300, it shall be rounded to the nearest multiple of \$300.

*Average Wages.* The average wage for calendar year 1984 was previously determined to be \$16,135.07. The average wage for calendar year 1985 has been determined to be \$16,822.51, as stated herein.

*Amount.* The ratio of the average wage for 1985, \$16,822.51 compared to that for 1984, \$16,135.07, is 1.0428053. Multiplying the 1986 "old-law" contribution and benefit base amount of \$31,500 by the ratio of 1.0428053 produces the amount of \$32,842.07 which must then be rounded to \$32,700. Accordingly, the "old-law" contribution and benefit base is determined to be \$32,700 for 1987.

#### *OASDI Fund Ratio*

*General.* Section 215(i) of the Act was amended by section 112 of Pub. L. 98-21, the Social Security Amendments of 1983, to include a "stabilizer" provision that can limit the automatic OASDI benefit increase under certain circumstances. If the combined assets of the OASI and DI Trust Funds, as a percentage of annual expenditures, are below a specified level, the automatic benefit increase is equal to the lesser of: (1) the increase in average wages or (2) the increase in prices. The threshold level specified for the OASDI fund ratio is 15.0 percent for benefit increases for December of 1984 through December 1988, and 20.0 percent thereafter. The amendments also provide for subsequent "catch-up" benefit increase for beneficiaries whose previous benefit increases were affected by this provision. "Catch-up" benefit increases occur only when trust fund assets exceed 32.0 percent of annual expenditures.

*Computation.* Section 215(i) specifies the computation and application of the OASDI fund ratio. The OASDI fund ratio for 1986 is defined as the ratio of: (1) the combined assets of the OASI and DI Trust Funds at the beginning of 1986, including advance tax transfers for January 1986 and excluding amounts owed to the Hospital Insurance (HI) Trust Fund, to (2) the estimated expenditures of the OASI and DI Trust Funds during 1986, excluding payments of interest and principal on amounts owed to the HI Trust Fund and transfer payments between the OASI and DI Trust Funds, and reducing any transfers to the Railroad Retirement Account by

any transfers from that account into either trust fund.

*Ratio.* The combined assets of the OASI and DI Trust Funds at the beginning of 1986 (including advance tax transfers for January 1986 and excluding amounts owed to the HI Trust Fund) equaled \$47,901 million, and the expenditures are estimated to be \$201,802 million. Thus, the OASDI fund ratio for 1986 is 23.7 percent, which exceeds the applicable threshold of 15.0 percent. As a result, the "stabilizer" provision does not affect the benefit increase for December 1986.

(Catalog of Federal Domestic Assistance Programs Nos. 13.802-13.805. and 13.807 Social Security Programs.)

Dated: October 31, 1986.

**Otis R. Bowen,**

*Secretary of Health and Human Services.*

#### SPECIAL MINIMUM PRIMARY INSURANCE AMOUNTS AND MAXIMUM FAMILY BENEFITS

Special minimum primary insurance amount payable for Dec. 1985	No. of years required at minimum earnings level	Special minimum primary insurance amount payable for Dec. 1986	Special minimum maximum family benefit payable for Dec. 1986
19.20	11	19.40	29.20
38.10	12	38.50	58.00
57.20	13	57.90	87.10
76.20	14	77.10	115.90
95.20	15	96.40	144.70
114.40	16	115.80	173.90
133.40	17	135.10	202.70
152.50	18	154.40	231.70
171.50	19	173.70	260.60
190.40	20	192.80	289.40
209.60	21	212.30	318.60
228.60	22	231.50	347.50
247.80	23	251.00	376.70
266.80	24	270.20	405.50
285.70	25	289.40	434.20
305.00	26	308.90	463.60
324.00	27	328.20	492.50
343.00	28	347.40	521.20
361.90	29	366.60	550.20
380.90	30	385.80	579.00

This material was published in the Federal Register on November 5, 1986, at 51 FR 40256, and corrected on November 25, 1986, at 51 FR 42676.

**APPENDIX D.—AUTOMATIC ADJUSTMENTS UNDER OLD-AGE,  
SURVIVORS, AND DISABILITY INSURANCE**

The Social Security Act specifies that certain program amounts affecting the determination of OASDI benefits are to be adjusted annually, in general, to reflect changes in the economy. The law prescribes specific formulas which, when applied to reported statistics, produce "automatic" revisions in these program amounts and hence in the benefit-computation procedures.

In this appendix, values are shown for the program amounts which are subject to automatic adjustment, from the time that such adjustments became effective through 1987. Projected values for future years through 1992, based on the two intermediate sets of assumptions (alternatives II-A and II-B), are also shown. Many of these assumptions are described in the subsection of this report entitled "Economic and Demographic Assumptions" and are shown in tables 10 and 11. The subsection entitled "Automatic Adjustments," and Appendix C, provide a more complete description of the program amounts affected by the automatic-adjustment procedures.

Under section 215(b)(3) of the Social Security Act, the average amount of total wages for each year after 1950 is used to index the earnings of most workers first becoming eligible for benefits in 1979 or later. This procedure converts a worker's past earnings to approximately their equivalent values near the time of the worker's retirement or other eligibility, and these values are used to calculate the worker's Average Indexed Monthly Earnings (AIME). The average amount of total wages for each year is also used to adjust most of the program amounts that are subject to the automatic-adjustment provisions. A copy of the notice announcing the average wage for 1985, including a brief description of its derivation, is shown in Appendix C, which also describes the determinations of other program amounts that are in effect for 1987. Table D1 shows the average amount of total wages as announced for each year 1951 through 1985.

TABLE D1.—AVERAGE AMOUNT OF TOTAL WAGES, CALENDAR YEARS 1951-85

Year	Amount	Year	Amount	Year	Amount
1951.....	\$2,799.16	1966.....	\$4,938.36	1981.....	\$13,773.10
1952.....	2,973.32	1967.....	5,213.44	1982.....	14,531.34
1953.....	3,139.44	1968.....	5,571.76	1983.....	15,239.24
1954.....	3,155.64	1969.....	5,893.76	1984.....	16,135.07
1955.....	3,301.44	1970.....	6,186.24	1985.....	16,822.51
1956.....	3,532.36	1971.....	6,497.08		
1957.....	3,641.72	1972.....	7,133.80		
1958.....	3,673.80	1973.....	7,580.16		
1959.....	3,855.80	1974.....	8,030.76		
1960.....	4,007.12	1975.....	8,630.92		
1961.....	4,086.76	1976.....	9,226.48		
1962.....	4,291.40	1977.....	9,779.44		
1963.....	4,396.64	1978.....	10,556.03		
1964.....	4,576.32	1979.....	11,479.46		
1965.....	4,658.72	1980.....	12,513.46		

Table D2 shows the estimated average amount of total wages for each year 1986 through 1992, based on the four alternative sets of assumptions.

TABLE D2.—ESTIMATED AVERAGE AMOUNT OF TOTAL WAGES BY ALTERNATIVE,  
CALENDAR YEARS 1986-92

Calendar year	I	II-A	II-B	III
1986.....	\$17,514.96	\$17,429.11	\$17,418.01	\$17,338.61
1987.....	18,309.37	18,250.99	18,135.77	17,777.89
1988.....	19,240.01	19,144.62	19,029.23	18,655.24
1989.....	20,268.77	20,153.93	19,984.09	19,697.00
1990.....	21,269.44	21,169.36	21,106.45	20,662.71
1991.....	22,240.25	22,222.85	22,325.59	22,037.68
1992.....	23,171.66	23,305.67	23,559.55	23,309.46

The provisions for automatic cost-of-living increases in OASDI benefits were originally enacted in 1972 and first became effective with the benefit increase effective for June 1975. The determination of the benefit increase effective for December 1986 is shown in Appendix C. Table D3 shows the automatic benefit increases determined for each year 1975-86, and the benefit increases for each year 1987-92, on the basis of the two intermediate sets of assumptions.

The law provides for an automatic increase in the contribution and benefit base for the year following a year in which an automatic benefit increase became effective. The base for 1975 was the first one determined on this basis. (Amendments enacted in December 1973 provided that the 11-percent general benefit increase that became effective in 1974 would be considered an automatic cost-of-living benefit increase for purposes of the automatic-adjustment provisions.) The bases for 1979-81 were specified by the 1977 amendments at levels above those which were expected to occur under the automatic-adjustment provisions (and which, in fact, as the experience developed, were above such levels). Starting again in 1982, the bases have been determined automatically on the basis of increases in average wages. Table D3 shows actual past and projected future amounts for the contribution and benefit base.

The law provides for the determination of the contribution and benefit bases that would have been in effect in each year after 1978 under the automatic-adjustment provisions as in effect before the enactment of the 1977 amendments. This "old-law" base is used in determining special-minimum benefits for certain workers who have many years of low earnings in covered employment. Beginning in 1986, the old-law base is also used in the calculation of OASDI benefits for certain workers who are eligible to receive pensions based on noncovered employment. In addition, it is used for certain purposes under the Railroad Retirement program and the Employee Retirement Income Security Act of 1974. Table D3 shows the old-law bases for 1979-87, together with estimated amounts for 1988-92 on the basis of the two intermediate sets of assumptions.

The 1972 amendments specified that the amount of earnings exempted from the withholding of benefits under the retirement earnings test would increase automatically in the year following a year in which an automatic cost-of-living benefit increase became effective. The 1977 amendments modified this procedure by establishing two different exempt amounts—one for those under age 65 and another for those aged 65 and over. The former amounts continued to increase automatically, while the latter amounts were specified for 1978-82, after which they again increase automatically. The exempt amounts are shown in table D3 for 1975-92.

The 1977 amendments specified the amount of earnings required in 1978 to be credited with a "quarter of coverage" and provided for automatic adjustment of this amount for future years. Table D3 shows the amounts for 1978-92.

The 1977 amendments substantially revised the method of computing benefits for most workers first becoming eligible for benefits in 1979 and later. The formula used to compute the Primary Insurance Amount (PIA) for workers who first become eligible for benefits, or who died before becoming eligible, in 1979 is:

90 percent of the first \$180 of AIME, plus  
 32 percent of AIME in excess of \$180  
 but not in excess of \$1,085, plus  
 15 percent of AIME in excess of \$1,085.

The amounts separating the individual's AIME into intervals—the "bend points"—are adjusted automatically by the changes in average wages as specified in section 215(a)(1)(B) of the Social Security Act. (A regular-minimum benefit of \$122 and a special-minimum benefit varying by "years of coverage" are also provided, although for most workers first becoming eligible for benefits in 1982 and later, the regular-minimum benefit of \$122 has been eliminated.) The bend points for 1979-87, and the values projected for 1988-92, are shown in table D3.

A similar formula is used to compute the maximum total amount of monthly benefits payable on the basis of the earnings of a retired or deceased individual. This formula is a function of the individual's PIA, and is shown below for workers who first became eligible for benefits, or who died before becoming eligible, in 1979:

150 percent of the first \$230 of PIA, plus  
 272 percent of the PIA in excess of \$230  
 but not in excess of \$332, plus  
 134 percent of the PIA in excess of \$332  
 but not in excess of \$433, plus  
 175 percent of the PIA in excess of \$433.

These PIA-interval bend points are adjusted automatically in accordance with section 203(a)(2) of the Act. The maximum-family-benefit bend points for 1979-92 are shown in table D3.

TABLE D3.—OASDI PROGRAM AMOUNTS DETERMINED UNDER THE AUTOMATIC-ADJUSTMENT PROVISIONS, CALENDAR YEARS 1975-87, AND PROJECTED FUTURE AMOUNTS, CALENDAR YEARS 1988-92, ON THE BASIS OF THE INTERMEDIATE SETS OF ASSUMPTIONS

Calendar year	Benefit increase <sup>1</sup> (percent)	Contribution and benefit base	"Old-law" contribution and benefit base <sup>2</sup>	Retirement earnings test exempt amounts		Amount of earnings required for quarter of coverage <sup>4</sup>	AIME "bend points" in PIA formula		PIA "bend points" in maximum-family-benefit formula		
				Under age 65	Ages 65 and over <sup>3</sup>		First	Second	First	Second	Third
<b>Actual experience:</b>											
1975	8.0	\$14,100	( <sup>5</sup> )	\$2,520	\$2,520	( <sup>6</sup> )	( <sup>7</sup> )	( <sup>8</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )
1976	6.4	15,300	( <sup>5</sup> )	2,760	2,760	( <sup>6</sup> )	( <sup>7</sup> )	( <sup>8</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )
1977	5.9	16,500	( <sup>5</sup> )	3,000	3,000	( <sup>6</sup> )	( <sup>7</sup> )	( <sup>8</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )
1978	6.5	17,700	( <sup>5</sup> )	3,240	4,000	*\$250	( <sup>7</sup> )	( <sup>8</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )
1979	9.9	*22,900	\$18,900	3,480	4,500	260	*\$180	*\$1,085	*\$230	*\$332	*\$433
1980	14.3	*25,900	20,400	3,720	5,000	290	194	1,171	248	358	467
1981	11.2	*29,700	22,200	4,080	5,500	310	211	1,274	270	390	508
1982	7.4	32,400	24,300	4,440	6,000	340	230	1,388	294	425	554
1983	3.5	35,700	26,700	4,920	6,600	370	254	1,528	324	468	610
1984	3.5	37,800	28,200	5,160	6,960	390	267	1,612	342	493	643
1985	3.1	39,600	29,700	5,400	7,320	410	280	1,691	358	517	675
1986	1.3	42,000	31,500	5,760	7,800	440	297	1,790	379	548	714
1987	( <sup>5</sup> )	43,800	32,700	6,000	8,160	460	310	1,866	396	571	745
<b>Alternative II-A:</b>											
1988	3.6	45,300	33,900	6,240	8,400	470	321	1,934	410	592	772
1989	3.6	47,400	35,400	6,480	8,760	490	336	2,025	429	620	808
1990	3.1	49,800	37,200	6,840	9,240	520	352	2,124	450	650	848
1991	3.0	52,500	39,300	7,200	9,720	550	371	2,236	474	684	892
1992	3.0	55,200	41,400	7,560	10,200	570	390	2,349	498	719	937
<b>Alternative II-B:</b>											
1988	4.5	45,300	33,900	6,240	8,400	470	321	1,932	410	591	771
1989	4.3	47,100	35,400	6,480	8,760	490	334	2,012	427	616	803
1990	4.6	49,500	37,200	6,840	9,240	520	350	2,111	448	646	843
1991	4.2	51,900	39,000	7,200	9,720	540	368	2,217	470	678	885
1992	4.0	54,900	41,100	7,560	10,320	570	388	2,342	496	717	935

<sup>1</sup>Effective with benefits payable for June in each year 1975-82, and for December in each year after 1982.

<sup>2</sup>Contribution and benefit base that would have been determined automatically under the law in effect prior to enactment of the Social Security Amendments of 1977.

<sup>3</sup>In 1955-82, retirement earnings test did not apply at ages 72 and over; beginning in 1983, it does not apply at ages 70 and over.

<sup>4</sup>See Appendix C for a description of quarter-of-coverage requirements prior to 1978.

<sup>5</sup>No provision in law for this amount in this year.

<sup>6</sup>Amount not subject to automatic-adjustment provisions in this year.

<sup>7</sup>Amount specified by Social Security Amendments of 1977.

<sup>8</sup>Amount specified for first year by Social Security Amendments of 1977; amounts for subsequent years subject to automatic-adjustment provisions.

<sup>9</sup>Actual benefit increase for December 1987 has not been determined. Estimates of that increase, based on alternatives II-A and II-B, are 3.5 percent and 3.7 percent, respectively.

**APPENDIX E.—ACTUARIAL ESTIMATES FOR THE OASI, DI, AND HI PROGRAMS, COMBINED**

In this appendix, actuarial estimates for the OASI, DI, and Hospital Insurance (HI) programs are combined to facilitate analysis of the adequacy of the combined income and assets of these three trust funds relative to their combined expenditures. These estimates represent the combination of the estimates shown in this report and in the concurrent report for the HI Trust Fund.

As is the case with the OASI and DI Trust Funds, the primary source of income to the HI Trust Fund is contributions paid by employees, employers, and self-employed persons. Contribution (or tax) rates for the OASDI and HI programs are summarized in table E1 for 1987 and later. The combined OASDI and HI tax on employees and their employers is often referred to as the FICA tax, because it is authorized by the Federal Insurance Contributions Act.

TABLE E1.—CONTRIBUTION RATES FOR THE OASDI AND HI PROGRAMS

Calendar years	Contribution rates (percent)					
	Employees and employers, each			Self-employed		
	OASDI	HI	Total	OASDI	HI	Total
1987 <sup>1</sup> .....	5.70	1.45	7.15	11.40	2.90	14.30
1988-89 <sup>1</sup> .....	6.06	1.45	7.51	12.12	2.90	15.02
1990 and later.....	6.20	1.45	7.65	12.40	2.90	15.30

<sup>1</sup>See section entitled "Nature of the Trust Funds" for description of tax credits allowed against the combined OASDI and HI taxes on net earnings from self-employment in 1987-89.

The Social Security Act authorizes borrowing among the OASI, DI, and HI Trust Funds through the end of 1987. Loans cannot be made from a trust fund if its assets are below specified levels, and minimum standards are specified for the repayment of interfund loans (including a requirement for the complete repayment of all such loans before 1990). Estimates shown in this appendix for the combined trust funds are theoretical after 1987 because, under present law, no authority exists for transferring assets from one trust fund to another after 1987 except to repay amounts owed. Currently, there are no such amounts owed. The emphasis in this appendix on combined operations should not obscure the financial status of the individual trust funds.

Table E2 shows estimated contingency fund ratios for the three funds, separate and combined, for calendar years 1987-96, based on the four alternative sets of assumptions used in this report. The contingency fund ratio is defined to be the ratio of trust fund assets at the beginning of a year (including advance tax transfers for January, in the case of OASI and DI) to expenditures during the year, expressed as a percentage.

The estimates in table E2 show that no interfund loans will be necessary during 1987. Based on all four alternatives, the contingency fund ratio for the OASI and DI Trust Funds, combined, is estimated to increase throughout the short-range projection period. The DI fund ratio, however, is projected to decline in 1987 based on all four alternatives, but then to increase under all alternatives except alternative III, in which case it is projected to continue declining until being exhausted in 1996. Under all but alternative I the HI fund ratio is

estimated to increase for a few years and then to begin declining. As described in the concurrent HI Annual Report, the HI Trust Fund would have sufficient assets to meet obligations throughout the medium-range period based on alternative I, but would be exhausted in 2005 based on alternative II-A, in 2002 based on alternative II-B, and in 1996 based on alternative III.

Table E2 shows that the combined assets of the OASI, DI, and HI Trust Funds will be sufficient to meet combined obligations through at least the period shown, based on all four alternative sets of assumptions. The combined fund ratio is projected to increase from 41 in 1987 to 233, 181, 150, and 61 in 1996 based on alternatives I, II-A, II-B, and III, respectively. Thus, a reallocation of tax rates among the OASI, DI, and HI programs, or the extension of interfund borrowing authority beyond 1987, could be sufficient to prevent the potential financing problems of the DI and HI programs for a number of years.

TABLE E2.—ESTIMATED CONTINGENCY FUND RATIOS<sup>1</sup> FOR THE OASI, DI, AND HI TRUST FUNDS, SEPARATE AND COMBINED, BY ALTERNATIVE, CALENDAR YEARS 1987-96

Calendar year	OASI	DI	OASDI	HI	Total OASDI and HI
<b>Alternative I:</b>					
1987	30	45	31	81	41
1988	42	44	42	98	53
1989	61	50	60	111	71
1990	83	62	81	121	89
1991	107	89	105	131	111
1992	134	120	132	140	134
1993	162	151	161	149	158
1994	191	183	191	157	183
1995	222	213	221	164	208
1996	252	242	251	171	233
<b>Alternative II-A:</b>					
1987	30	44	31	81	41
1988	41	41	41	97	52
1989	58	44	56	108	67
1990	76	50	73	115	82
1991	96	70	94	120	99
1992	118	91	115	121	116
1993	140	112	137	121	133
1994	162	133	159	119	150
1995	185	152	182	114	166
1996	208	169	204	107	181
<b>Alternative II-B:</b>					
1987	30	44	31	81	41
1988	40	40	40	97	51
1989	55	41	53	106	64
1990	69	45	67	111	76
1991	85	61	83	112	89
1992	102	78	100	112	102
1993	119	95	117	109	115
1994	136	113	134	103	127
1995	154	129	152	96	139
1996	172	144	169	88	150
<b>Alternative III:</b>					
1987	30	43	31	81	41
1988	37	34	37	94	48
1989	46	27	44	98	55
1990	53	20	49	97	59
1991	58	19	54	90	62
1992	63	19	59	79	63
1993	69	18	64	65	64
1994	75	16	69	48	64
1995	81	13	74	28	63
1996	88	9	79	7	61

<sup>1</sup>See text for definition of contingency fund ratio.

Note: The assumptions underlying the estimates for the HI Trust Fund are described in Appendix A of the HI Annual Report.

Table E3 shows estimated cost rates for the OASI, DI, and HI programs for the long-range 75-year projection period, based on the four alternative sets of assumptions. Table E3 also shows a comparison of total income and cost rates for the three programs combined. The cost rates shown for the HI program exclude the cost associated with rebuilding and maintaining the HI Trust Fund at a level suitable for a contingency reserve. Table 9 of the HI Annual Report presents these additional costs.

TABLE E3.—COMPARISON OF ESTIMATED TOTAL INCOME RATES AND COST RATES FOR THE OASI, DI, AND HI PROGRAMS, BY ALTERNATIVE, CALENDAR YEARS 1987-2061  
(As a percentage of taxable payroll<sup>1</sup>)

Calendar year	Total income rate	Cost rate				Total	Balance <sup>a</sup>
		OASI	DI	HI <sup>a</sup>	Total		
<b>Alternative I:</b>							
1987	14.48	9.67	1.07	2.54	13.28	1.19	
1988	15.20	9.56	1.04	2.57	13.16	2.03	
1989	15.21	9.40	1.00	2.62	13.02	2.18	
1990	15.49	9.35	.98	2.68	13.00	2.48	
1991	15.50	9.24	.96	2.70	12.90	2.61	
1992	15.51	9.13	.94	2.73	12.80	2.72	
1993	15.51	9.06	.94	2.75	12.75	2.76	
1994	15.51	9.00	.94	2.77	12.71	2.80	
1995	15.51	8.93	.94	2.79	12.67	2.85	
1996	15.51	8.87	.94	2.79	12.61	2.91	
2000	15.54	8.06	.97	2.76	11.79	3.75	
2005	15.58	7.44	1.06	2.70	11.20	4.38	
2010	15.62	7.62	1.20	2.66	11.49	4.13	
2015	15.67	8.53	1.28	2.67	12.47	3.19	
2020	15.73	9.72	1.32	2.79	13.83	1.90	
2025	15.78	10.64	1.37	3.00	15.00	.77	
2030	15.81	11.03	1.32	3.20	15.55	.26	
2035	15.81	10.88	1.26	3.33	15.46	.35	
2040	15.81	10.41	1.23	3.41	15.06	.75	
2045	15.81	9.99	1.25	3.43	14.67	1.13	
2050	15.79	9.75	1.25	3.42	14.43	1.37	
2055	15.79	9.60	1.24	3.41	14.25	1.54	
2060	15.78	9.45	1.23	3.41	14.09	1.70	
<b>25-year averages:</b>							
1987-2011	15.48	8.35	1.03	2.71	12.09	3.39	
2012-2036	15.75	10.04	1.31	2.97	14.31	1.44	
2037-2061	15.80	9.90	1.24	3.41	14.55	1.24	
<b>75-year average:</b>							
1987-2061	15.68	9.43	1.19	3.03	13.65	2.02	
<b>Alternative II-A:</b>							
1987	14.48	9.72	1.09	2.55	13.36	1.12	
1988	15.20	9.70	1.06	2.60	13.37	1.84	
1989	15.21	9.63	1.04	2.68	13.35	1.86	
1990	15.52	9.64	1.03	2.78	13.45	2.07	
1991	15.51	9.56	1.02	2.85	13.42	2.09	
1992	15.52	9.50	1.01	2.91	13.42	2.10	
1993	15.52	9.47	1.01	2.99	13.47	2.05	
1994	15.53	9.45	1.02	3.06	13.53	1.99	
1995	15.53	9.42	1.03	3.13	13.59	1.94	
1996	15.53	9.39	1.04	3.19	13.62	1.91	
2000	15.56	8.70	1.13	3.34	13.17	2.39	
2005	15.61	8.13	1.31	3.54	12.99	2.62	
2010	15.66	8.39	1.54	3.78	13.71	1.94	
2015	15.72	9.49	1.67	4.15	15.31	.40	
2020	15.79	10.99	1.75	4.69	17.43	-1.64	
2025	15.86	12.30	1.85	5.32	19.47	-3.61	
2030	15.91	13.12	1.81	5.87	20.80	-4.88	
2035	15.94	13.35	1.75	6.19	21.29	-5.35	
2040	15.95	13.16	1.74	6.33	21.24	-5.29	
2045	15.96	12.99	1.79	6.37	21.15	-5.19	
2050	15.97	13.01	1.81	6.36	21.19	-5.22	
2055	15.97	13.09	1.80	6.34	21.23	-5.26	
2060	15.97	13.10	1.78	6.34	21.21	-5.24	
<b>25-year averages:</b>							
1987-2011	15.50	8.89	1.19	3.26	13.34	2.16	
2012-2036	15.83	11.66	1.76	5.15	18.56	-2.73	
2037-2061	15.96	13.08	1.78	6.35	21.21	-5.25	
<b>75-year average:</b>							
1987-2061	15.77	11.21	1.58	4.92	17.70	-1.94	

TABLE E3.—COMPARISON OF ESTIMATED TOTAL INCOME RATES AND COST RATES FOR THE OASI, DI, AND HI PROGRAMS, BY ALTERNATIVE, CALENDAR YEARS 1987-2061 (Cont.)  
[As a percentage of taxable payroll<sup>1</sup>]

Calendar year	Total income rate	Cost rate			Total	Balance <sup>2</sup>
		OASI	DI	HI <sup>3</sup>		
<b>Alternative II-B:</b>						
1987.....	14.48	9.79	1.10	2.57	13.46	1.02
1988.....	15.20	9.82	1.08	2.63	13.52	1.68
1989.....	15.22	9.88	1.07	2.73	13.68	1.54
1990.....	15.54	9.92	1.06	2.84	13.81	1.73
1991.....	15.52	9.92	1.05	2.92	13.88	1.64
1992.....	15.53	9.88	1.04	2.99	13.91	1.62
1993.....	15.53	9.86	1.04	3.07	13.97	1.57
1994.....	15.53	9.84	1.05	3.15	14.03	1.50
1995.....	15.54	9.82	1.06	3.22	14.09	1.45
1996.....	15.54	9.79	1.06	3.27	14.13	1.41
2000.....	15.57	9.15	1.16	3.48	13.79	1.78
2005.....	15.62	8.59	1.35	3.73	13.67	1.96
2010.....	15.67	8.87	1.58	4.01	14.47	1.21
2015.....	15.74	10.02	1.72	4.41	16.16	-4.2
2020.....	15.82	11.62	1.81	4.98	18.40	-2.59
2025.....	15.89	13.03	1.90	5.66	20.59	-4.69
2030.....	15.95	13.97	1.87	6.23	22.07	-6.12
2035.....	15.98	14.26	1.81	6.58	22.65	-6.67
2040.....	15.99	14.10	1.80	6.73	22.63	-6.64
2045.....	16.01	13.91	1.85	6.77	22.54	-6.53
2050.....	16.01	13.93	1.87	6.76	22.56	-6.55
2055.....	16.01	14.01	1.86	6.74	22.61	-6.60
2060.....	16.01	14.02	1.84	6.74	22.59	-6.58
<b>25-year averages:</b>						
1987-2011.....	15.51	9.29	1.22	3.39	13.90	1.62
2012-2036.....	15.86	12.37	1.81	5.47	19.65	-3.79
2037-2061.....	16.00	14.00	1.84	6.75	22.59	-6.59
<b>75-year average:</b> 1987-2061.....	15.79	11.89	1.63	5.20	18.71	-2.92
<b>Alternative III:</b>						
1987.....	14.48	10.05	1.15	2.63	13.83	.65
1988.....	15.21	10.34	1.17	2.76	14.26	.95
1989.....	15.23	10.47	1.18	2.89	14.53	.70
1990.....	15.58	10.94	1.22	3.09	15.26	.32
1991.....	15.54	10.95	1.22	3.21	15.38	.16
1992.....	15.55	10.92	1.23	3.35	15.51	.05
1993.....	15.56	10.89	1.24	3.50	15.82	-.06
1994.....	15.56	10.86	1.26	3.65	15.76	-.20
1995.....	15.56	10.83	1.28	3.80	15.90	-.34
1996.....	15.56	10.80	1.30	3.93	16.03	-.46
2000.....	15.60	10.19	1.43	4.49	16.11	-.50
2005.....	15.67	9.61	1.68	5.26	16.54	-.87
2010.....	15.73	9.98	2.01	6.19	18.17	-2.44
2015.....	15.81	11.42	2.24	7.46	21.13	-5.32
2020.....	15.91	13.55	2.40	9.08	25.02	-9.10
2025.....	16.03	15.71	2.58	10.89	29.18	-13.16
2030.....	16.13	17.57	2.59	12.42	32.58	-16.46
2035.....	16.13	18.83	2.57	13.28	34.69	-18.48
2040.....	16.20	19.59	2.62	13.59	35.80	-19.54
2045.....	16.33	20.34	2.78	13.66	36.78	-20.45
2050.....	16.38	21.37	2.86	13.65	37.88	-21.50
2055.....	16.43	22.47	2.85	13.60	38.93	-22.50
2060.....	16.47	23.28	2.82	13.59	39.69	-23.22
<b>25-year averages:</b>						
1987-2011.....	15.55	10.26	1.48	4.40	16.14	-.59
2012-2036.....	16.00	15.06	2.46	10.35	27.87	-11.87
2037-2061.....	16.37	21.24	2.78	13.61	37.63	-21.26
<b>75-year average:</b> 1987-2061.....	15.97	15.52	2.24	9.45	27.21	-11.24

<sup>1</sup>The taxable payroll for HI is somewhat larger than the taxable payroll for OASDI, because HI covers all Federal civilian employees, including those hired before 1984, all State and local government employees hired after April 1, 1986, and railroad employees. This difference is relatively small and does not significantly affect the comparisons.

<sup>2</sup>Cost rates for HI exclude amounts required for trust fund building and maintenance.

<sup>3</sup>The balance is the total income rate minus the combined OASDI and HI cost rate. Negative balances are deficits.

The trend in long-range OASDI cost rates was described earlier in this report. The HI cost rates are estimated to increase substantially based on the four alternatives, from the current level of 2.6 percent of taxable payroll to 3.41, 6.34, 6.74, and 13.59 percent, respectively, in

2060. The most significant increases occur during 2010-35. The estimated combined OASDI and HI cost rates follow a similar pattern, rising from the current level of 13.6 percent to 14.09, 21.21, 22.59, and 39.69 percent of taxable payroll in 2060 based on alternatives I, II-A, II-B, and III, respectively. The combined cost rates are estimated to be less than the combined income rates throughout the long-range period based on alternative I, but are estimated to exceed the combined income rates for all years 2020 and later, based on alternative II-A, for all years 2015 and later, based on alternative II-B, and for all years 1993 and later, based on alternative III. The combined average actuarial balances for the 75-year projection period are a positive 2.02 percent of taxable payroll on the basis of alternative I, and deficits of 1.94, 2.92, and 11.24 percent on the basis of alternatives II-A, II-B, and III, respectively. For the long-range period, the estimated average combined income rates are 115, 89, 84, and 59 percent of the estimated average combined cost rates, based on alternatives I, II-A, II-B, and III, respectively.

The patterns of combined positive balances and deficits within the 75-year projection period are also shown. In general, the estimates for the three 25-year subperiods display a pattern of large positive balances or small deficits in the first subperiod, followed by falling positive balances or rising deficits in the second and third subperiods. For example, under alternative II-B, the combined average positive balance is 1.62 percent of taxable payroll in 1987-2011, followed by average deficits of 3.79 percent and 6.59 percent in 2012-2036 and 2037-2061, respectively.

As noted previously in this report and in the HI Annual Report, long-range estimates such as these are subject to much uncertainty and as such should not be considered precise forecasts, but instead should be considered as indicative of the general trend and range of costs that could reasonably be expected to occur.

**APPENDIX F.—PROJECTED COST AS A PERCENTAGE OF GNP FOR THE OASI, DI, AND HI PROGRAMS**

In this appendix, the estimated cost of the OASI, DI, and HI programs is presented as a percentage of the gross national product (GNP). While expressing estimated cost as a percentage of taxable payroll is the most useful approach for assessing the financial status of the programs, (see table 26 and Appendix E), analysis of cost as a percentage of GNP provides an additional perspective on the cost of the programs in relation to the total value of goods produced and services performed in the U.S. economy.

Table F1 presents estimated OASI, DI, and HI costs as percentages of GNP on the basis of the four alternative sets of assumptions. For the next 20 years, the combined OASI and DI cost—hereafter referred to as the OASDI cost—as a percentage of GNP is projected to decline on the basis of alternatives I, II-A, and II-B, and to remain about level on the basis of alternative III. The projected HI cost as a percentage of GNP, however, increases through 2005 under all four alternatives. The combined OASDI and HI cost as a percentage of GNP is projected, for the next 20 years, to decrease based on alternative I, to remain about level based on the intermediate sets of assumptions (alternatives II-A and II-B), and to increase based on alternative III. Between 2005 and about 2035, both the OASDI and the HI costs as percentages of GNP are projected to rise substantially based on all four alternatives because of the baby-boom generation reaching retirement age. After 2035, the HI cost as a percentage of GNP is projected to stabilize, and the OASDI cost as a percentage of GNP is projected to decline slightly, except under alternative III, for which OASDI cost as a percentage of GNP is projected to continue rising. The combined OASDI and HI cost as a percentage of GNP is projected, after 2035, to follow the pattern of its largest component, the OASDI cost, decreasing on the basis of alternatives I, II-A, and II-B, while increasing on the basis of alternative III.

The combined costs of the OASDI and HI programs as percentages of GNP, based on the four alternatives, differ by a relatively large amount at the end of the long-range period (about 8.4 percentage points between alternatives I and III), while differing by a much smaller amount at the end of the medium-range period (2.6 percentage points in 2010). In addition, the combined average long-range cost as a percentage of GNP varies by a relatively large amount (from 6.08 percent based on alternative I, to 10.89 percent based on alternative III), while the average medium-range cost varies by a much smaller amount (from 5.30 to 6.93 percent).

TABLE F1.—ESTIMATED COST OF THE OASI, DI, AND HI PROGRAMS AS A PERCENTAGE OF GNP BY ALTERNATIVE AND TRUST FUND, CALENDAR YEARS 1987-2061

Calendar year	OASI	DI	OASDI	HI	Total OASDI and HI
<b>Alternative I:</b>					
1987 .....	4.19	0.46	4.65	1.15	5.80
1988 .....	4.12	.45	4.56	1.15	5.72
1989 .....	4.05	.43	4.48	1.17	5.65
1990 .....	4.02	.42	4.44	1.19	5.63
1991 .....	3.97	.41	4.39	1.21	5.59
1992 .....	3.94	.41	4.35	1.22	5.57
1993 .....	3.91	.41	4.32	1.23	5.55
1994 .....	3.89	.41	4.29	1.24	5.53
1995 .....	3.86	.41	4.26	1.25	5.51
1996 .....	3.83	.41	4.24	1.25	5.49
2000 .....	3.50	.42	3.93	1.25	5.18
2005 .....	3.25	.46	3.71	1.25	4.96
2010 .....	3.34	.53	3.86	1.25	5.11
2015 .....	3.74	.56	4.30	1.26	5.55
2020 .....	4.26	.58	4.84	1.33	6.16
2025 .....	4.66	.60	5.26	1.43	6.69
2030 .....	4.83	.58	5.41	1.53	6.94
2035 .....	4.76	.55	5.32	1.60	6.92
2040 .....	4.56	.54	5.10	1.65	6.75
2045 .....	4.38	.55	4.93	1.66	6.59
2050 .....	4.27	.55	4.82	1.67	6.49
2055 .....	4.20	.54	4.75	1.67	6.41
2060 .....	4.14	.54	4.68	1.67	6.35
<b>25-year averages:</b>					
1987-2011 .....	3.62	.45	4.07	1.23	5.30
2012-2036 .....	4.40	.57	4.97	1.42	6.39
2037-2061 .....	4.34	.54	4.88	1.66	6.54
<b>75-year average:</b>					
1987-2061 .....	4.12	.52	4.64	1.44	6.08
<b>Alternative II-A:</b>					
1987 .....	4.21	.47	4.68	1.15	5.84
1988 .....	4.18	.46	4.64	1.16	5.80
1989 .....	4.15	.45	4.60	1.20	5.80
1990 .....	4.14	.44	4.58	1.24	5.82
1991 .....	4.11	.44	4.55	1.27	5.82
1992 .....	4.09	.44	4.53	1.30	5.83
1993 .....	4.08	.44	4.52	1.34	5.86
1994 .....	4.07	.44	4.51	1.37	5.88
1995 .....	4.06	.44	4.50	1.40	5.90
1996 .....	4.05	.45	4.49	1.42	5.91
2000 .....	3.76	.49	4.24	1.50	5.74
2005 .....	3.51	.57	4.07	1.61	5.68
2010 .....	3.61	.66	4.28	1.73	6.00
2015 .....	4.07	.72	4.79	1.90	6.69
2020 .....	4.69	.75	5.44	2.15	7.59
2025 .....	5.23	.78	6.01	2.44	8.45
2030 .....	5.55	.76	6.31	2.69	9.00
2035 .....	5.62	.74	6.35	2.84	9.19
2040 .....	5.51	.73	6.24	2.90	9.14
2045 .....	5.41	.75	6.16	2.91	9.07
2050 .....	5.40	.75	6.15	2.91	9.06
2055 .....	5.40	.74	6.15	2.89	9.04
2060 .....	5.38	.73	6.11	2.89	9.00
<b>25-year averages:</b>					
1987-2011 .....	3.83	.51	4.35	1.47	5.81
2012-2036 .....	4.95	.75	5.70	2.36	8.06
2037-2061 .....	5.43	.74	6.17	2.90	9.07
<b>75-year average:</b>					
1987-2061 .....	4.74	.67	5.41	2.24	7.65

TABLE F1.—ESTIMATED COST OF THE OASI, DI, AND HI PROGRAMS AS A PERCENTAGE OF GNP BY ALTERNATIVE AND TRUST FUND, CALENDAR YEARS 1987-2061 (Cont.)

Calendar year	OASI	DI	OASDI	HI	Total OASDI and HI
<b>Alternative II-B:</b>					
1987	4.25	0.48	4.73	1.16	5.89
1988	4.24	.46	4.70	1.18	5.88
1989	4.26	.46	4.72	1.22	5.94
1990	4.26	.45	4.71	1.27	5.98
1991	4.25	.45	4.70	1.30	6.00
1992	4.24	.45	4.69	1.33	6.02
1993	4.24	.45	4.69	1.37	6.06
1994	4.23	.45	4.68	1.40	6.09
1995	4.22	.45	4.68	1.44	6.11
1996	4.22	.46	4.67	1.46	6.13
2000	3.93	.50	4.43	1.55	5.98
2005	3.67	.58	4.25	1.66	5.90
2010	3.77	.67	4.44	1.78	6.22
2015	4.22	.72	4.94	1.95	6.90
2020	4.84	.75	5.60	2.19	7.79
2025	5.38	.79	6.17	2.48	8.65
2030	5.71	.76	6.47	2.72	9.19
2035	5.77	.73	6.51	2.86	9.36
2040	5.66	.72	6.38	2.90	9.28
2045	5.53	.74	6.26	2.90	9.17
2050	5.48	.74	6.22	2.88	9.10
2055	5.46	.72	6.18	2.86	9.04
2060	5.41	.71	6.12	2.84	8.96
<b>25-year averages:</b>					
1987-2011	3.98	.52	4.51	1.51	6.02
2012-2036	5.11	.75	5.86	2.40	8.26
2037-2061	5.52	.73	6.25	2.88	9.13
<b>75-year average:</b>					
1987-2061	4.87	.67	5.54	2.26	7.80
<b>Alternative III:</b>					
1987	4.41	.51	4.92	1.20	6.12
1988	4.46	.50	4.96	1.24	6.20
1989	4.52	.51	5.03	1.30	6.32
1990	4.70	.53	5.22	1.38	6.60
1991	4.67	.52	5.19	1.42	6.62
1992	4.66	.52	5.19	1.49	6.67
1993	4.66	.53	5.19	1.55	6.74
1994	4.65	.54	5.19	1.62	6.81
1995	4.64	.55	5.19	1.68	6.87
1996	4.63	.56	5.19	1.74	6.93
2000	4.34	.61	4.95	1.97	6.93
2005	4.06	.71	4.77	2.28	7.05
2010	4.17	.84	5.01	2.67	7.68
2015	4.71	.92	5.63	3.19	8.82
2020	5.51	.97	6.48	3.84	10.32
2025	6.29	1.03	7.33	4.56	11.89
2030	6.94	1.02	7.96	5.14	13.11
2035	7.33	1.00	8.33	5.44	13.77
2040	7.52	1.01	8.52	5.50	14.03
2045	7.69	1.05	8.74	5.48	14.22
2050	7.97	1.07	9.03	5.42	14.45
2055	8.26	1.05	9.31	5.35	14.66
2060	8.43	1.02	9.45	5.29	14.75
<b>25-year averages:</b>					
1987-2011	4.37	.63	5.00	1.93	6.93
2012-2036	6.03	.99	7.02	4.33	11.34
2037-2061	7.93	1.04	8.97	5.42	14.39
<b>75-year average:</b>					
1987-2061	6.11	.88	6.99	3.89	10.89

The difference between cost rates expressed as percentages of taxable payroll and those expressed as percentages of GNP can be seen by analyzing the estimated ratios of taxable payroll to GNP, which are presented in table F2. The cost as a percentage of GNP is approximately equal to the cost as a percentage of taxable payroll multiplied by the ratio of taxable payroll to GNP.

Projections of GNP for the first several years were based on assumed quarterly changes in real GNP and the GNP price deflator. Thereafter, projections of GNP were based on the projected increases in U.S.

employment and labor productivity. Productivity projections were based on assumed changes in the level of average earnings, the ratio of earnings to worker compensation, the ratio of worker compensation to GNP, and average hours worked per year.

Projections of taxable payroll, which are described in detail in Appendix A, were based on the projected increases in covered employment and average taxable earnings. Therefore, the projected increases in taxable payroll differ from projected increases in GNP primarily to the extent that average taxable earnings are assumed to increase more slowly than is productivity and to the extent that coverage of U.S. employment changes. For simplicity of presentation, table F2 is based on the projected OASDI taxable payroll even though the projected HI taxable payroll is somewhat larger because of the inclusion of the earnings of railroad employees and the more complete coverage of Federal, state, and local government employees.

TABLE F2.—RATIO OF TAXABLE PAYROLL TO GNP BY ALTERNATIVE,  
CALENDAR YEARS 1987-2060

Calendar year	I	II-A	II-B	III
1987 .....	0.433	0.433	0.434	0.439
1988 .....	.431	.431	.431	.431
1989 .....	.431	.431	.431	.432
1990 .....	.429	.429	.429	.429
1991 .....	.430	.430	.429	.427
1992 .....	.432	.431	.429	.427
1993 .....	.432	.431	.430	.428
1994 .....	.432	.431	.430	.429
1995 .....	.432	.431	.430	.429
1996 .....	.432	.431	.431	.429
2000 .....	.435	.432	.429	.427
2005 .....	.437	.432	.427	.423
2010 .....	.438	.431	.424	.418
2015 .....	.438	.429	.421	.412
2020 .....	.438	.427	.417	.406
2025 .....	.438	.425	.413	.401
2030 .....	.438	.423	.409	.395
2035 .....	.438	.421	.405	.389
2040 .....	.438	.419	.401	.384
2045 .....	.438	.417	.397	.378
2050 .....	.438	.415	.393	.373
2055 .....	.438	.413	.390	.367
2060 .....	.438	.411	.386	.362

The long-range trend in the ratio of taxable payroll to GNP reflects the assumed trend in the ratio of wages to total employee compensation—i.e., wages plus fringe benefits. The ratio of wages to total employee compensation declined at average annual rates of 0.41 percent for the 30 years 1956-85, and 0.32, 0.58, and 0.34 percent for the 10-year periods 1956-65, 1966-75, and 1976-85, respectively. This ratio is assumed to stop its historical decline for alternative I, but to continue to decline ultimately by 0.1, 0.2, and 0.3 percent per year for alternatives II-A, II-B, and III, respectively.

Through 2015, however, the tendency toward decreases in the ratio of taxable payroll to GNP, discussed above, is at least partially offset by the gradually expanding OASDI coverage of Federal civilian employment resulting from the 1983 amendments. For alternative I, the ratio of taxable payroll to GNP is projected to rise slightly through 2010, thereafter remaining about the same. For alternative II-A, the ratio is projected to stay about the same from 1987 through 2005 before

beginning to decrease. For alternatives II-B and III, the ratio of taxable payroll to GNP is projected to stay about the same through 1996 before beginning to decrease for the remainder of the long-range period.

**APPENDIX G.—STATEMENT OF ACTUARIAL OPINION**

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial and actuarial status of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the experience and expectations of the program.



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